

REMARKS

Specification

The abstract of the disclosure is objected to by the Examiner because the abstract does not mention the package of claims 4-7 or the cup with cover of claim 8. See paragraph 1 of the Office Action. The abstract has been amended to address the matters raised by the Examiner. Accordingly, the objection to the abstract of the disclosure should be withdrawn by the Examiner.

The disclosure is objected to by the Examiner because of various informalities for the reasons set forth in paragraph 2 of the Office Action. The objection to the disclosure is respectfully traversed. Reconsideration and withdrawal of the objection to the disclosure is requested.

Upon receipt of the Office Action, Applicants' representative contacted the Examiner to determine exactly where in the specification that the Examiner was referring to with respect to his objection. The Examiner indicated that he is objecting to page 7, lines 2-4.

The description at page 7, lines 2-4 has been amended to be consistent with the claims, as amended. Accordingly, the objection to the disclosure should be withdrawn by the Examiner.

Claim Objections

Claim 2 is objected to by the Examiner because it is said to be in improper form for the reasons set forth in paragraph 3 of the Office Action. Applicants have amended claim 2 to recite ethylene- α -olefin copolymer (B). Thus, claim 2 is properly dependent on claim 1 and the objection to claim 2 should be withdrawn by the Examiner.

Rejection of Claims 5 and 8 Under 35 U.S.C. 112, First Paragraph

Claims 5 and 8 are rejected to by the Examiner under 35 U.S.C. 112, first paragraph, for the reasons set forth in paragraphs 4-5 of the Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

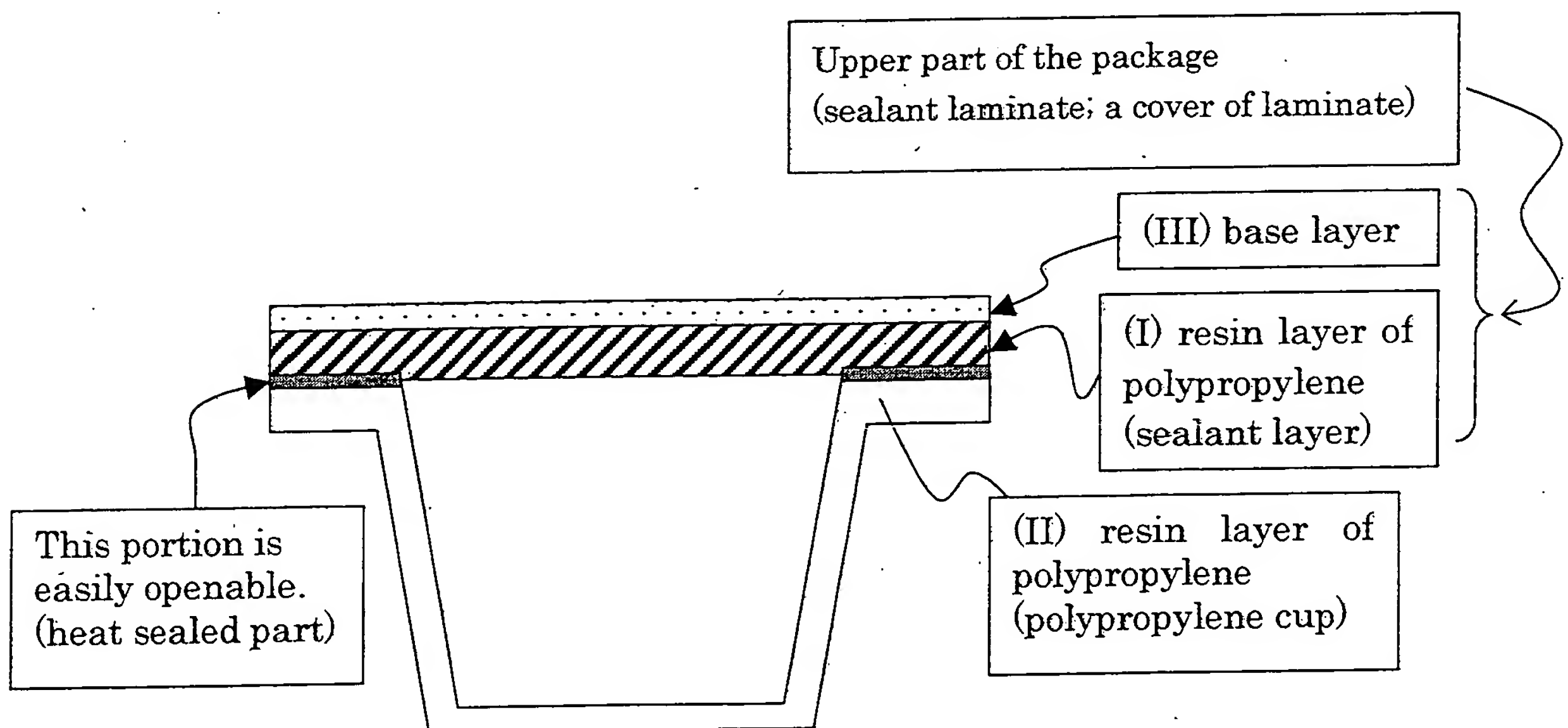
The Examiner appears to be rejecting claims 5 and 8 because it is not clear to the Examiner how the present invention having the three layers can function as a sealant. With regard to claims 5 and 8, the sealant layer (I) is situated between the polypropylene resin layer (II) and the base layer (III). The Examiner states that the base and propylene layers prevent the intermediate sealant layer from functioning as a sealant layer for the purpose of forming a package sealed with a hermetic seal. However, it should be readily apparent to one of ordinary skill in the art that the three-layered structure can still act as a sealant.

With regard to the Examiner's comments in the Office Action at page 3 (starting at line 17) and claim 8, the present specification at page 20, lines 1-19 describes a three-layered cup and cover (made by injection molding or vacuum forming).

The Examiner appears to be interpreting claim 8 to mean a cup as a laminate that includes a polypropylene layer and a cup having a cover (see last two lines of page 9, and 1 of page 10 of the Office Action).

With regard to Claims 5 to 8, an example of the structure of the package is as shown in the following figure 1.

Figure 1
(sectional view of the package)



As shown in the above figure, the sealant layer (I) is situated between the resin layer of polypropylene (II) and the base layer (III).

Generally, an easily openable hermetically sealed package as in the present invention is manufactured by heat-sealing the sealant laminate (comprising (I) and (III)) and resin layer of polypropylene (II). Therefore, in the manufacture of a container of the present invention, the sandwiched sealant layer (I) is not heat sealed further.

With regard to the present Claim 8, "a cover of laminate" of line 2 represents the sealant laminate, which comprises a sealant layer (I) and a base layer (III). The term "the sealant laminate" is discussed on page 20, lines 13 and 19 of the specification.

Meanwhile, "said laminate" of line 4 of the present Claim 8 represents the whole laminate which comprises the layers (I), (III) and (II). As such, in order to further clarify the present invention, Applicants are adding claim 10 to 12 and amending claim 8 appropriately consistent with the figure shown above. Support for claims 10 to 12 relating to a cup-shaped package is based on the paragraphs 0066 and 0067 of the specification. (The paragraph numbers are based on the Patent Application Publication of the present invention; US2002/0176952 A1.)

Accordingly, in view of the remarks hereinabove and in view of the amendments to the claim 8, reconsideration and withdrawal of the rejection of claims 5 and 8 under 35 U.S.C. 112, first paragraph, are respectfully requested.

Rejection of Claims 1, 3 and 4-8 Under 35 U.S.C. 112, Second Paragraph

Claims 1 and 3-8 are rejected by the Examiner under 35 U.S.C. 112, second paragraph, for the reasons set forth in paragraphs 6-7 of the Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

The composition of claim 1 can comprise:

- (i) the ethylene/ α -olefin copolymer (B);
- (ii) the linear low-density polyethylene (C); or
- (iii) both the ethylene/ α -olefin copolymer (B) and the linear low-density polyethylene (C).

Claim 1, as amended, clarifies the present invention and deletes the claim language "and/or". This is clearly a non-narrowing claim amendment.

Claim 9 is directed to the composition of claim 1 that has both the ethylene/ α -olefin copolymer (B) and the linear low-density polyethylene (C).

Claim 3 is amended to address the matters raised by the Examiner. That is, the phrase "with respect to the linear low

density polyethylene (C)" is amended to read "of the linear low density polyethylene (C)". This is clearly a non-narrowing claim amendment.

In claims 4-8, the phrase "easily openable" is deleted for clarity. This amendment is clearly a non-narrowing claim amendment.

With regard to the term "hermetically", Applicants do not agree with the Examiner's position. "Hermetically" is defined in any dictionary as "in a hermetic manner" and "so as to be airtight". Thus, the term "a hermetically sealed package" is definite.

Applicants have further added claims 13-20 as a fall back position in the event that the Examiner maintains this rejection.

Finally, claim 8 has been amended to address the matters raised by the Examiner. The above-mentioned remarks with respect to claim 8 are herein incorporated by reference.

In view to the amendments to the claims and in view of the remarks hereinabove, reconsideration and withdrawal of the rejection of the claims under 35 U.S.C. 112, second paragraph, are respectfully requested.

Rejection of Claims 1-8 Under 35 U.S.C. 102(b)/103(a) Over Yamamoto et al. '861 reference (U.S. Patent No. 5,741,861) alone or in view of Yamada et al. (U.S. Patent 5,281,453)

Claims 1, 3, 4 and 7 are rejected by the Examiner under 35 U.S.C. 102(b) over the Yamamoto et al. '861 reference (U.S. Patent

No. 5,741,861) for the reasons set forth in paragraph 9 of the Office Action. Claims 5 and 6 are rejected by the Examiner under 35 U.S.C. 103(a) over the Yamamoto et al. '861 reference (U.S. Patent No. 5,741,861) for the reasons set forth in paragraph 11 of the Office Action. Finally, claim 8 is rejected by the Examiner under 35 U.S.C. 103(a) over the Yamamoto et al. '861 reference (U.S. Patent No. 5,741,861) in view of U.S. Patent 5,281,453 to Yamada et al. for the reasons set forth in paragraph 12 of the Office Action. These rejections are respectfully traversed. Reconsideration and withdrawal thereof are requested.

Request for Clarification of Rejection

Clarification of the status of claim 2 is respectfully requested.

Claim 2 has not been rejected. Thus, incorporating this limitation into claim 1 may overcome these rejections. However, it is not clear if the Examiner has considered the patentability of claim 2 due to the improper dependency (see paragraph 3 of the Office Action). Thus, it is not clear if incorporating the limitation of claim 2 into claim 1 would overcome the prior art rejections.

The Present Invention

The present invention as recited in claim 1, as amended, relates to a sealant for polypropylene consisting essentially of a composition comprising:

a high-pressure-processed low-density polyethylene (A) having a density (measured in accordance with ASTM D 1505) of 910 to 930 kg/m³ and a melt flow rate (measured under a load of 2.16 kg at 190°C in accordance with ASTM D 1238) of 0.5 to 20 g/10 min, and

an ethylene/ α -olefin copolymer (B) having a density (measured in accordance with ASTM D 1505) of 860 to less than 890 kg/m³, a melt flow rate (measured under a load of 2.16 kg at 190°C in accordance with ASTM D 1238), MFR_{2.16}, of 0.5 to 40 g/10 min and a molecular weight distribution (Mw/Mn) determined by gel permeation chromatography (GPC) of 1.5 to 3, obtained from ethylene and an α -olefin having 3 to 10 carbon atoms,

a linear low-density polyethylene (C) having a density (measured in accordance with ASTM D 1505) of 890 to 940 kg/m³ and a melt flow rate (measured under a load of 2.16 kg at 190°C in accordance with ASTM D 1238) of 0.2 to 30 g/10 min, obtained from ethylene and an α -olefin having 3 to 10 carbon atoms, or

both of said ethylene/ α -olefin copolymer (B) and said linear low-density polyethylene (C);

wherein, in the composition, the high-pressure-processed low-density polyethylene (A) is contained in an amount of 10 to 85% by weight, the ethylene/ α -olefin copolymer (B) is contained in an amount of less than 50% by weight, and the ethylene/ α -olefin copolymer (B), the linear low-density polyethylene (C), or said ethylene/ α -olefin copolymer (B) and said linear low-density polyethylene (C) are contained in a total amount of 15 to 90% by weight, based on the total weight of high-pressure-processed low-density polyethylene (A), ethylene/ α -olefin copolymer (B) and linear low-density polyethylene (C),

which composition exhibits a melt flow rate (measured under a load of 2.16 kg at 190°C in accordance with ASTM D 1238) of 1 to 15 g/10 min and a melt tension (MT) measured at 190°C of 5 to 100 mN.

U.S. Patent No. 5,741,861 to Yamamoto et al. '861 Reference

The Yamamoto et al. reference discloses a resin composition for laminate. The Yamamoto et al. reference teaches that the resin composition may be used as a sealant for a sandwich laminate having a base and a sealant, and the base may be various types of materials.

Distinctions Between the Present Invention and the Cited Prior Art

The Yamamoto et al. reference is completely silent with respect to controlling the sealing strength depending on the kind of base material. In addition, polypropylene is not used as base material in the Examples of '361.

In contrast to the teachings of the Yamamoto et al. reference, the sealant of the present invention is used for polypropylene. When the sealant is used for polypropylene, it has good sealability and is easily opened. Therefore, an easily opened hermetically sealed package can be obtained by using the sealant of the present invention.

Generally, when polypropylene is used as an adherend, the same kind of polypropylene is used as a sealant material. Since adhesive strength between polypropylene and polyethylene is weak, one of ordinary skill in the art may naturally think that it needs some processing or adhesion layer between polypropylene and polyethylene to use polyethylene as a sealant with polypropylene.

Assuming, arguendo, the above-mentioned arguments are not sufficient for the Examiner to withdraw the rejection, Applicants have amended claim 1 in order to further distinguish the present invention from the prior art. More specifically, claim 1 is amended by changing the phrase

"the ethylene/ α -olefin copolymer (B) is contained in an amount of 50% by weight or less" to recite "the ethylene/ α -olefin copolymer

(B) is contained in an amount of less than 50% by weight". This amendment clearly distinguishes the present invention and Yamamoto by removing the case where the content of (B) is 50%.

The Examiner's reliance upon the Yamada et al. reference does not correct the deficiencies of the primary reference.

In view of the remarks hereinabove and/or in view of the amendments to the claims, the prior art rejections should be withdrawn by the Examiner.

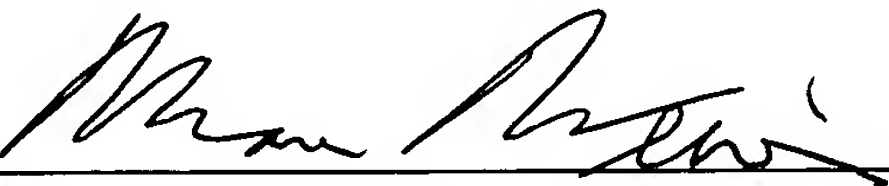
Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$110.00 is attached hereto.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Marc S. Weiner (Reg. No. 32,181) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
 Marc S. Weiner, #32,181

MSW/ETP/rem
 1155-0236P

P.O. Box 747
 Falls Church, VA 22040-0747
 (703) 205-8000

Enclosures: Abstract of the Disclosure